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STATUS REPORT FOR FUMIGANT PESTICIDES

July, 2004

I. SCHEDULED AIR MONITORING

The Air Resources Board (ARB) has a network of stations that routinely monitor California's air for a variety of pollutants such as ozone, particulate matter, metals, and other toxic air contaminants. In 2002, ARB began monitoring for methyl bromide and 1,3-dichloropropene every 12 days at approximately 20 stations in primarily urban areas throughout the State. Results of monitoring in 2002 are available from the following ARB Web page:

<http://www.arb.ca.gov/adam/toxics/toxics.html>

The Department of Pesticide Regulation (DPR) has initiated a monitoring study to determine the relative emission rates of fumigants and check the effectiveness of buffer zones. DPR will monitor selected fumigations that use more than one fumigant and/or use an application method for which little or no monitoring has been conducted previously. The protocol for this study is available at the following web page:

<http://www.cdpr.ca.gov/docs/emppm/pubs/protocol/prot212.pdf>

II. ACUTE BUFFER ZONE MODELING

DPR utilizes a standard methodology to calculate buffer zones for acute exposures. Fumigant pesticide registrants and some grower groups have suggested some specific refinements to the current modeling methodology that they believe will improve the procedure and incorporate local information and more representative meteorological conditions. Industry has proposed an alternative approach to DPR's modeling procedures. Their approach would incorporate historical weather data, revising the method to estimate flux and the method to determine the size of buffer zones. The alternative approach would be utilized by the industry at their discretion in specific areas. The standard DPR model would remain in place statewide. In June 2004, DPR received industry's draft results of using their methodology to identify regions of the state with comparable weather conditions through statistical analysis. DPR staff is reviewing the draft results.

III. METHYL BROMIDE

1. Risk Assessment/Data Evaluation

The completed methyl bromide risk characterization document is available at:

http://www.cdpr.ca.gov/docs/methbrom/riskasses_fum.htm



2. Risk Management Status

- As a result of lawsuits, court orders and settlements outlined in the September 2003 edition of this report, DPR has proposed to permanently adopt methyl bromide field fumigation regulations focusing on mitigating possible acute (short-term) and subchronic (seasonal) methyl bromide exposure hazards to the public and agricultural employees. The 45-day public comment period closed on December 18, 2003. DPR held hearings in mid-November in Ventura, Salinas, and Sacramento. In response to the comments received, DPR made changes to the text from that which was originally proposed. Also, additional documents that DPR relied upon in adopting the proposed regulations have been added to the rulemaking file. The modified text and the additional documents relied upon will be made available to the public for 15 days beginning April 27, 2004 through May 12, 2004.

DPR issued a notice of second modifications to the text of the proposed methyl bromide field fumigation regulations. The 15-day public comment period began July 16, 2004 and ends July 31, 2004. The proposed regulations have been revised to require DPR to ensure that ambient air concentrations of methyl bromide do not exceed an average daily nonoccupational exposure of nine parts per billion in a calendar month. This replaces the proposed limit of 270,000 pounds of methyl bromide used in any township in any calendar month. The lack of completed peer reviewed mandated by Health and Safety Code section 57004 on the methodology that derived the 270,000 pounds per month in any township equating to nine parts per billion precludes establishing the limit in regulation at this time. In order to ensure that adequate subchronic restrictions are implemented, DPR is establishing a performance-base standard instead of a prescriptive standard, while still continuing to protect the public from any possible subchronic methyl bromide exposure. Additionally, the proposed regulations have been revised to remove the county agricultural commissioner's (CAC) requirement to consult with the director prior to approving any deviation resulting in buffer zone sizes or durations less than specified in the Methyl Bromide Field Fumigation Buffer Zone Determination, Est. 2/04. The provision was deemed unnecessary, potential confusing, and redundant to existing policies regarding interaction between the CACs and DPR.

The draft of the second modifications was being reviewed by the Department of Food and Agriculture as part of the consultation requirements pursuant to FAC section 11454.2, and the February 6, 1992 Memorandum of Agreement which was developed as provided in section 11454.2.

- Information on the methyl bromide regulatory issues is found at the following DPR Web site:
http://www.cdpr.ca.gov/docs/dprdocs/methbrom/fum_regs.htm

3. Critical Use Exemption Under the Clean Air Act

- The Parties to the Montreal Protocol granted critical use exemptions (CUEs) to the U.S. for 35% of its baseline for 2005. The U.S. has submitted its nominations for CUEs for 2006, and is awaiting the Parties determination. U.S. EPA will propose rulemaking for allocating CUEs among methyl bromide users.

IV. 1,3-DICHLOROPROPENE

- DPR continues to use the California Management Plan: 1,3-Dichloropropene (1,3-D) to manage the use of 1,3-D throughout California.
- Information on the California Management Plan: 1,3-Dichloropropene is found at the following DPR Web site:
<http://www.cdpr.ca.gov/docs/dprdocs/methbrom/telone/mgmtplan.pdf>
- Enforcement Letter, ENF 02-37 Recommended Permit Conditions for Using 1,3-D Pesticides (Fumigant) provides guidance to county agricultural commissioners and is posted on DPR's Web site at:
<http://www.cdpr.ca.gov/docs/enfcmpli/penfltrs/penf2002/2002menu.htm>

V. CHLOROPICRIN

1. Risk Assessment/Data Evaluation

- DPR requested that ARB conduct monitoring for an application site in 2004.
- On October 16, 2001, DPR placed all products containing chloropicrin into reevaluation. The reevaluation is based on data submitted under the Birth Defect Prevention Act. These data indicate that chloropicrin has the potential to cause adverse health effects at low doses. Air monitoring data submitted by the Chloropicrin Manufacturers Task Force indicate that the air levels of chloropicrin at some distances from treated greenhouses or fields could exceed the NIOSH standard of 0.1 ppm. Under the reevaluation, chloropicrin registrants are required to submit: (1) worker exposure studies for each type of chloropicrin fumigation site, and (2) ambient air quality monitoring and flux measurements from field and

greenhouse applications, if methods other than the ones for which DPR already has data are to be employed. DPR awaits the submission of requested studies.

- Chloropicrin is currently in the risk assessment process.
- DPR is coordinating certain aspects of the exposure and risk assessments (e.g., study evaluations) with U.S. EPA.

VI. MITC GENERATING COMPOUNDS

1. Risk Assessment/Data Evaluation

- ARB monitored a drip application of metam sodium during 2002. ARB's final report of this monitoring is posted at the following web page
 - <http://www.cdpr.ca.gov/docs/empm/pubs/tac/tacpdfs/metsod04.pdf>
- The completed MITC risk characterization document is available at:
<http://www.cdpr.ca.gov/docs/empm/pubs/tac/finlmenu.htm>

2. Risk Management Status

- On December 2, 2002, DPR issued a public document that outlines its risk management decision.
- DPR listed MITC and other compounds that generate MITC as toxic air contaminants.
- DPR received mitigation proposals from the Metam Sodium Manufacturers Task Force (MSTF) and one other registrant in March 2003 to address acute offsite exposure. DPR scientists reviewed the proposals and prepared mitigation recommendations to the risk manager for consideration. In April 2004, DPR requested the MSTF and registrant to submit a revised proposal. DPR expects to receive the industry's MITC mitigation proposal in July 2004.
- On April 9, 2004, DPR issued a memorandum that outlines its risk management decision to mitigate acute, subchronic and chronic occupational exposures.
- In July 2004, U.S. EPA and DPR discussed the possibility of collaborating on the development of mitigation measures.

VII. SULFURYL FLUORIDE

1. Risk Assessment/Data Evaluation

- Sulfuryl fluoride is currently in the risk assessment process.
- DPR has proposed a 2004 schedule to ARB and the Office of Environmental Health Hazard Assessment for presenting sulfuryl fluoride as a potential toxic air contaminant to the AB 1807 Scientific Review Panel.
- ARB monitored a structural fumigation in Sacramento County during October 2002. The final report is posted to the following DPR Web site:
http://www.cdpr.ca.gov/docs/empm/pubs/tac/studies/sulfuryl_fl.htm
- ARB will monitor additional structural fumigations in 2004.
- DPR and ARB met with the registrant (May 2004) to discuss their plan to modify the current aeration procedure for structural fumigation. The registrant plans to conduct air monitoring during the development of the new procedure; co-sampling by ARB was also discussed.
- A Section 3 registration request for a new product is currently in evaluation. The proposed product is intended to control post-harvest insect and rodent pests (in specific commodities) in non-residential structures, fumigant chambers, storage structures, and in food processing establishments.

VIII. POTENTIAL NEW FUMIGANTS/FUMIGANT ALTERNATIVES

- DPR has received applications from Arvesta, formerly Tomen Agro, to register products containing the active ingredient iodomethane (methyl iodide). DPR and the U.S. Environmental Protection Agency are conducting a joint review of the off-site air monitoring data.
- DPR has reviewed off-site and worker exposure monitoring protocols for dimethyl disulfide submitted by Cerexagri. Cerexagri plans to conduct experimental applications and initiate these monitoring studies this summer.

IX. VOLATILE ORGANIC COMPOUNDS

- Volatile organic compounds (VOCs) contribute to the formation of tropospheric ozone, which is harmful to human health when present at high enough concentrations. Many active

and inert ingredients in pesticide products are VOCs. The federal Clean Air Act requires each state to submit a state implementation plan (SIP) for achieving and maintaining federal ambient air quality standards including the standard for ozone. The 1994 SIP requires a 12 percent reduction in pesticidal VOC emissions by 1999 in the San Joaquin Valley and a 20 percent reduction by 2005-2010 in four other areas of the State. ARB and the San Joaquin Valley Air Pollution Control District are scheduled to complete a new SIP in 2004 that will describe the steps to attain the ozone standard by 2010 in the San Joaquin Valley. ARB estimates that all sources, including pesticides, will need to reduce VOC emissions an additional 30 percent between 2005 and 2010 in order to achieve the ozone standard. DPR is working with ARB and others to incorporate possible reduction options for VOC emissions from pesticides in the SIP. DPR estimates that 50-60 percent of VOC emissions from pesticides are due to fumigants. In May 2004, the Association of Irrigated Residents and others filed a lawsuit against DPR and ARB alleging that the 1994 SIP provisions are not being met.